

IN THE SPECIFICATION:

Please amend the paragraph starting at page 3, line 6, and ending at page 4, line 19, as follows.

--Referring to Fig. 10, reference numeral 101 denotes a printer controller for receiving image data via communications with a host computer, mapping the received image data to information that the printer can print, and exchanging signals with a printer engine controller (to be described below) via serial communications; and 102, an engine controller for exchanging signals with the printer controller via serial communications to control respective units of a printer engine. Reference numeral 103 denotes a paper feed controller for executing paper feed control ~~from~~ when a paper sheet to be printed is fed and conveyed until the paper sheet is exhausted after the print process, on the basis of an instruction from the engine controller 102; 104, an optical system controller for executing drive control of a scanner motor and laser ON/OFF control on the basis of an instruction from the engine controller 102; 105, a high-voltage system controller for executing high-voltage output control required for electrophotographic processes such as charging, development, transfer, and the like on the basis of an instruction from the engine controller 102; 106, a fixing temperature controller for executing temperature control of the fixing device on the basis of an instruction from the engine controller 102, and detecting any abnormality or the like of the fixing device; 107, a paper sensor input unit for transferring information from the paper sensors in the paper feed unit and paper convey path to the engine controller; 108, a jam detector for detecting convey errors during paper convey; and 109, a failure detector for detecting any failure of a functional unit in the printer.

Reference numeral 17 denotes the toner cartridge which is detachable from the printer engine, as described above. The toner cartridge 17 has a nonvolatile memory 21 which can exchange data with the engine controller 102, and allows the engine controller 102 to read out or write data. Further, the printer controller 20 corresponds to the engine controller 102 and the other controllers 103 to 109.--

Please amend the paragraph starting at page 5, line 12, and ending at line 20, as follows.

--TDATA is issued when the printer control unit 20 reads out the contents of the nonvolatile memory and rewrites its contents, and a read/rewrite instruction is set using command bits. The read address and rewrite data are output serially. In response to a read command, the nonvolatile memory 21 returns its address and data (or may return data alone). In case of a rewrite command, the address and write data are transferred.--

Please amend the paragraph starting at page 6, line 8, and ending at line 17, as follows.

--However, the method of storing important data upon controlling the printer engine, e.g., data that pertains to the service life of the cartridge, at a plurality of address positions, the nonvolatile memory requires a large capacity and will result in an increase in cost of the system. Furthermore, for obtaining a reliable data, data of plurality of address positions must be read out for finding errors, and if an error occurs, the data of a subject read corrected by using the plural data is restored.--

Please amend the paragraph starting at page 7, line 3, and ending at line 13, as follows.

--In order to solve the aforementioned problems, for example, a printing apparatus according the present invention comprises the following arrangement. That is, a printing apparatus to which an expendable having a memory for storing and holding information that pertains to a use state, and a recording agent used in a print process is detachably attached, comprises: memory access means for ~~making read~~ reading and ~~write~~ writing to the memory in the expendable; and setting means for setting inhibition/permission of data write with respect to an address space in the memory.--

Please amend the paragraph starting at page 12, line 1, and ending at page 13, line 23, as follows.

--Reference numeral 203 denotes a paper feed controller for executing paper feed control ~~from~~ when a paper sheet to be printed is fed and conveyed until the paper sheet is exhausted after the print process, on the basis of an instruction from the engine controller 202; 204, an optical system controller for executing drive control of a scanner motor and laser ON/OFF control on the basis of an instruction from the engine controller 202; 205, a toner remaining amount controller for detecting the toner remaining ~~amount~~ in the cartridge, and supplying the detected information to the engine controller 202; 206, a high-voltage system controller for executing high-voltage output control required for electrophotographic processes such as charging, development, transfer, and the like on the

basis of an instruction from the engine controller 202; 207, a fixing temperature controller for executing temperature control of the fixing device on the basis of an instruction from the engine controller, and detecting any abnormality or the like of the fixing device; 208, a paper sensor input unit for transferring information from the paper sensors in the paper feed unit and paper convey path to the engine controller 202; 209, a jam detector for detecting convey errors during paper convey; 210, a failure detector for detecting any failure of a functional unit in the printer; and 17, a toner cartridge which is detachable from the printer engine. The toner cartridge 17 mounts the nonvolatile memory 21 which can exchange data with the engine controller, and can read out or write data from or in the engine controller 202. Reference numeral 213 denotes a memory controller which is included in the engine controller 202, and reads out data from the nonvolatile memory 21 and rewrites the contents of the memory 21; 214, a toner use amount detection means which is included in the engine controller 202, and checks the service life of the toner cartridge 17 on the basis of information from the toner remaining amount detector 205 and supplies that information to the memory controller; and 215, a memory lock controller which is included in the memory controller and executes a process for writing service life data in the nonvolatile memory in the cartridge on the basis of service life information from the toner use amount detection means, and inhibiting the memory from rewriting the written data at a predetermined timing. Further, the printer controller 20 corresponds to the engine controller 202 and the ~~all~~ other kinds of ~~controller~~ controllers 203 to 210.--

Please amend the paragraph starting at page 15, line 7, and ending at line 21, as follows.

--Memory lock to inhibit data write is set on the basis of the data of a specific address in an address space, namely, by writing the predetermined data in an area of address No. 7, the contents of areas of address Nos. 1 to 4 are inhibited from being rewritten. According to the present embodiment, each of areas of address Nos. 1 to 4 is not ~~setup~~ set up independently. Also, the area of address No. 8 setting memory lock of areas of address Nos. 5 to 8, does not allow different setups in units of addresses No. 5 to 8 by writing the predetermined data to address No. 8. Hence, when data is written in address No. 8, the contents of the areas of address Nos. 5 to 8 cannot be rewritten, and the memory lock ~~setups~~ set ups of address Nos. 1 to 4 cannot consequently be changed.--

Please amend the paragraph starting at page 21, line 18, and ending at page 22, line 2, as follows.

--In the second embodiment, the interface between the nonvolatile memory 21 and printer control unit 20 has a wireless arrangement, i.e., has no electrical contacts. For this reason, the read/write driver circuit 20a is mounted in the printer control unit 20 and it is connected to the coil antenna 20b. The cartridge has an antenna 21b in coil-shape, which is connected to the nonvolatile ~~memory 21~~ memory 21 and is located at a position opposite to the antenna 20b when attaching to the printer. The communication is established by electromagnetical coupling between antenna 20b and 21b.--

Please amend the paragraph starting at page 27, line 14, and ending at line 25, as follows.

--As described above, according to this embodiment, since a recording medium such as a memory is used, ~~which is the memory being~~ characterized in that when an expendable including the recording medium has reached a predetermined condition, write to a predetermined area is inhibited in accordance with an instruction from a printer controller, and the write inhibition state is also inhibited from being changed, ~~is used~~, security of important control data can be improved without increasing the memory ~~size~~ size, unlike in the prior art, ~~resulting~~. This results in improved quality of the printer system and a cost reduction.--

Please amend the paragraphs starting at page 28, line 16, and ending at page 29, line 2, as follows.

--2. Upon receiving a write request of an “initial installation date” data from the controller, the printer control unit rewrites the contents at the address containing the “new cartridge bit” in the nonvolatile memory of the toner cartridge from “01h” to “00h” so that it sets the 1<sup>st</sup> bit of the address FFh to “new cartridge bit” and locks that bit.

3. The printer control unit then writes the “initial installation date” data at the corresponding address position of the nonvolatile memory so that it sets the 2<sup>nd</sup> bit of the address Ffh to “1” to “initial installation date”, and locks that data.--